

AMENDMENT TO THE CLAIMS:

The following claim set replaces all prior versions, and listings, of claims in the application:

1. (currently amended) A process for the manufacture of beadlet preparations of fat-soluble substances in a water-soluble or water-dispersible non-gelling matrix component, which process comprises:
 - (a) providing a spray zone comprised of at least one nozzle in a vertical spray tower which comprises:
 - (i) a first hollow cone having an upper and wider end which is closed and which carries one or more inlets for a starch/air dispersion;
 - (ii) a second inner cone fitted into the first hollow outer cone in such a manner that it points in an upward direction into the first cone thereby defining a small circular slot between an outer surface of the second cone and an inner surface of the first cone;
 - (iii) a inlet tube having a closed end and a rotary atomizer protruding in a downward direction through the second cone and having at a terminal end thereof an atomizer; and
 - (iv) a circular air inlet channel surrounding the first cone and having a discharge channel which terminates above the circular slot that is formed between the first and second cones;
 - (b) [[a)] feeding in the upper section of a vertical spray tower, through a spray nozzle an aqueous emulsion of said fat-soluble substance(s) and a said matrix component to the atomizer of the nozzle so that particles of the aqueous emulsion are discharged from the atomizer in the spray zone and into the spray tower, and, through separate inlets,
 - (c) feeding a powdery starch and a stream of hot air powder to the nozzle into a space between the first and second cones such that the starch

powder is discharged through the circular slot and contacts the particles of the emulsion discharged by the atomizer in the spray zone, wherein the particles are first coated with an adhesive layer of the starch powder followed by treatment with the hot air discharged from the hot air discharge channel surrounding the first cone;

- (d) ~~[[[b)]] feeding to a in the lower section of the said-spray tower a stream of cold air to form a fluidized bed of starch-covered beadlets comprising the said-matrix component said fat-soluble substances substance(s) and matrix component;~~ and
- (d) ~~[[[c)]] collecting the said-beadlets from the fluidized bed and discharging the beadlets from the spray tower them-~~ to a dryer.
2. (currently amended) A process as in claim 1 wherein the spray zone has a temperature of about 40°C to about 200°C, ~~preferably about 60°C to about 120°C~~ and the fluidized bed has a temperature of about 0°C to about 40°C, ~~preferably about 5 to about 20°C.~~
3. (canceled)
4. (previously presented) A process as in claim 1 wherein the matrix component is a lignin derivative.
5. (original) A process as in claim 4 wherein the lignin derivative is a lignin sulfonate.
6. (previously presented) A process as in claim 1 wherein the fat-soluble substance is vitamin A, D, E and K, a carotenoid, a polyunsaturated fatty acid, an oil or a fat.
7. (previously presented) A process as in claim 1 wherein the fat-soluble substance is β -carotene, astaxanthin, apocarotenal, canthaxanthin, apoester, citranaxanthin or zeaxanthin.

SCHAFFNER
Serial No. 10/541,359
August 4, 2009

8.-9. (canceled)

10. (new) A process as in claim 2, wherein the spray zone temperature is about 60°C to about 120°C and the fluidized bed temperature is about 5 to about 20°C.